

AMENDMENTS TO THE CLAIMS

1-4. (Canceled).

5. (Previously presented) A method of operating a falling film plasma reactor comprising the step of flowing a liquid dielectric over a surface of a first electrode wherein a particulate or particulate mixture enters the Falling Film Plasma Reactor, flows into the annular region comprising the plasma, the dielectric or conductive liquids, any solid surfaces of the reactor, and any gas or gas mixture, and contacts simultaneously or in sequence the plasma, the liquids, any solid surfaces of the reactor, and any gas or gas mixture; whereupon components of said particulate or particulate mixture react with components of the plasma, the liquids, and any solid surfaces of the reactor; whereby the components of said particulate or particulate mixture are modified and subjected to further contact and processes comprising the plasma, the liquids, any solid surfaces of the reactor, and any gas or gas mixture; where the plasma, the liquids, any solid surfaces of the reactor, any gas or gas mixture, and said particulate or particulate mixture are acted upon by secondary processes comprising changes in flow, composition, reactivity, temperature, pressure, contact duration, and contact sequence; whereupon results comprising decomposition, formation, combination, separation, recovery, circulation, and exhaust are achieved through multiple processes.

6-19. (canceled)

20. (new) The method of Claim 5, wherein said particulate or particulate mixture, is said particulate.

21. (new) The method of Claim 5, wherein said particulate or particulate mixture, is said particulate mixture.

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22. (new) The method of Claim 5, wherein said dielectric or conductive liquids, is said dielectric liquid.
23. (new) The method of Claim 5, wherein said dielectric or conductive liquids, is said conductive liquid.
24. (new) The method of Claim 5, wherein said contacts simultaneously or in sequence, is said simultaneously.
25. (new) The method of Claim 5, wherein said contacts simultaneously or in sequence, is said in sequence.
26. (new) The method of Claim 5, wherein said gas or gas mixture, is said gas.
27. (new) The method of Claim 5, wherein said gas or gas mixture, is said gas mixture.
28. (new) The method of Claim 5, wherein said secondary processes comprise said changes in flow.
29. (new) The method of Claim 28, wherein said secondary processes further comprise said changes in temperature.
30. (new) The method of Claim 5, wherein said secondary processes comprise changes in contact sequence.
31. (new) The method of Claim 5, wherein said results comprise decomposition.

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32. (new) The method of Claim 31, wherein said results further comprise formation.

33. (new) The method of Claim 5, wherein said results comprise formation.

34. (new) The method of Claim 5, wherein said results comprise combination.